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ABSTRACT

This paper is a statement, from the viewpoint of a language teaching specialist, of the contributions language learning theory could make to language planning. It consists of three parts: (1) a conceptual framework of language planning used to identify ways in which a linguist might contribute; (2) a summary of basic concepts of language learning theory, and (3) a review of literature on selected problems in bilingual education in order to examine the validity of any implications from language learning theory. The examination of several language learning theories leads to the conclusion that teachers in bilingual programs should have training in the methods of teaching English as a second language and that the socioeconomic and cultural background of the non-English-speaking student cannot be ignored if efficient learning is to take place. (PMP)

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Papers in Applied Linguistics

Bilingual Education Series: 1

Implications of Language Learning Theory for Language Planning:

Concerns in Bilingual Education

by Christina Bratt Paulston

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INTRODUCTION

I had at first intended in this paper to write a typology of accepted facts about language learning with the purpose of identifying those issues within language learning theory which might contribute to the more efficient solution of the major problems with which educational language planning deals. In writing the paper, the complexity of the relationship between language learning theory and language planning forced me to examine several commonly held assumptions, which examination in turn led to the present format of the paper. The basic assumptions were two: 1) that language specialists can contribute to language planning, and 2) that there are identifiable issues within language learning theory which remain the independent variable in different language learning situations, i.e. that in problems in educational language planning one can look to language learning theory for answers which will remain valid regardless of the situation. I rarely see these assumptions discussed critically by people who make their living as specialists on language teaching, and I think it well behooves us as professionals to do so. This paper then is a statement, from the viewpoint of a language teaching specialist, of the contributions one might reasonably expect from language learning theory to language planning.

In order to examine language planning case studies for possible implications from language learning theory, it became necessary first to identify those areas within the planning process to which the language teaching specialist might contribute. In so doing, I have had to consider the larger question of the possible contribution of the linguist, i.e. the language specialist, to matters of language planning. The paper then consists of three parts: 1) A conceptual framework of language planning in order to identify where within this process the language specialist might contribute; 2) Basic notions of language learning theory; 3) A review of the literature on a selected language problem in order to examine the validity of the implications from language learning theory; and last some summary comments.

LANGUAGE PLANNING

Most scholars have agreed to limit the term language planning to "the organized pursuit of solutions to language problems, typically at the national level."1/ The degree of "organized" varies; a language planning process that shares Jernudd's specifications of the orderly and systematic 1) establishment of goals, 2) the selection of means, and 3) the prediction of outcomes is an exception rather than the rule.2/ Heath's study of language policy in Mexico3/ illustrates how language decisions are made during the history of a nation; decisions are primarily made on political and economic grounds and

reflect the values of those in political power. Linguistic issues per se are of minor concern. Since the matters discussed are always overtly those of language, there is considerable confusion about the salient issues debated in language planning, whether they are in fact matters of political, economic, religious, socio-cultural or linguistic concerns.

In discussing language problems then, it is important for their identification, analysis, and treatment to understand whether they are legitimately problems of language or whether the language situation is merely symptomatic of social and cultural problems. To this end I find it useful to distinguish between language cultivation and language policy, where language cultivation deals with matters of language and language policy with matters of society and nation.4/ Jernudd5/ has suggested the terms language determination, language development, and language implementation, where determination roughly corresponds to policy and development to cultivation; he also points out that there exists a relationship between the two. I would like to take this one step further and suggest that determination, development, and implementation are subsets of cultivation as well as of policy so that a simple table looks like this:

LANGUAGE CULTIVATION	LANGUAGE POLICY
determination	determination
development	development
implementation	implementation

Here determination refers to the initial decision(s) among alternate goals, means and outcomes, although means may not form part of determination. Official language choice and commitment to bilingual education like the US Title VII Bilingual Education Act are typical examples. Development refers to the working out of means and strategies (Rubin's terms6/) to achieve one's putative outcomes; the urgent preparation of texts for bilingual education in countries like Peru is a crucial step in order to be able to implement the policy of the Plan Nacional de Educacion Bilingue. The preparation of vocabulary lists, normative grammars and spelling manuals are other examples. And teacher training deserves to be mentioned here, when national educational policy is being developed.

Determination without development is not likely to bring about implementation. The mere statement that Swahili is the official language of Kenya is not likely to decrease the use of English.7/ Development then becomes negative, discouraging or stigmatizing certain language behaviors on an institutional level. The standardized reading tests in the United States, which systematically discriminate against good black readers, is another example of the negative results which occur where there has been inadequate development of a national decision, i.e. to teach everyone to read.8/

Implementation finally is the actual attempts to bring about the desired goals.9/ The sale of grammars and dictionaries, the distribution of textbooks, the language used in the mass-media, and the Cuban Literacy Campaign in 1961 are all implementations of previous determination and development.

Occasionally the chronological order of determination, development, and implementation may seem to be reversed so that the determination simply becomes the official ratification of already implemented or accepted language use, as when the French Academy legalized masculine gender for auto long after it was common practice to say un auto. On closer thought, however, the number of Frenchmen saying un auto should not be thought of as the implementation of the Academy's decision but rather as a crucial input on that decision. Some of the factors least discussed in the literature on language planning are the factors which serve to influence the decisions in the determination stage. Rioting hordes in India, the folkhighschools in Norway, and a large Navajo speaking population in the United States have all had their input on decisions made about language even though the influence has been vastly disparate in nature. Existing language use does not form part of the planning process but is rather a major influence on every facet of that process. In my discussion of language planning I am not dealing with the factors which serve to influence determination, development, and implementation, but I have long thought them to be the most important aspects of language planning. There is as yet no theory of language planning that can systematically deal with such inputs.

I have left to last the basic difficulty of determining how a given language problem is classified as belonging to the cultivation or the policy category. In discussing this difficulty, I hope to make three things clear. One, that there is a much more ongoing interrelationship between the two approaches than what is normally recognized. Two, just as in linguistics, to borrow a metaphor, the same surface structures may have different underlying deep structures. So may observed language phenomena seem to be the same problem, e.g. the standardization of nynorsk and Hindi as official languages, when in fact very different language planning processes are involved.10/ And third, the model will help indicate at what times and in what areas it would be reasonable to expect that the language specialist could actively contribute to the language planning process.

I have attempted to isolate the basic elements which distinguish reported case studies of language planning from one another and to formulate these as criteria by which any event in the planning chain can be assigned to either the cultivation or policy approach. My concern has not been with abstract notions but with the realities of language planning.11/ The criteria are:

INPUTS	CRITERIA	CULTIVATION APPROACH	POLICY APPROACH
?	Determination		
	1. Who makes the decision?	Language specialists, i.e. linguists, philologists, language teachers, native informants, etc.	Government officials, agencies, ministries, etc.
	2. Does decision concern native or other language?	Decision about official native language of policy makers.	Decision about choice of official language or about second or foreign language of policy makers.
	3. Whom does the decision affect?	Decision affects language behavior of elites and policy makers as well.	Decision affects only subordinate classes or groups.
	Development		
	4. Factors in evaluating results?	Primarily linguistic or paedolinguistic.	Primarily non-linguistic, such as economic, political, ideological, etc.
	Implementation		
	5. Factors in evaluating results?	Passive acceptance.	Strong attitudes, either negative or positive.
	6. ?		

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No doubt the model will have to be revised; subsequent applications to further case studies will suggest other criteria, and any suggestions to that effect would be most appreciated.

Criterion 1. Who makes the decision? This is a relatively clear-cut category. In most cases it is quite clear whether the decision is made by language specialists, such as linguists, philologists, language teachers, native informants, etc. and so belongs to the cultivation approach or is made by government officials of various kinds, such as in agencies, ministries, etc. and belongs in the policy approach. Like Jernudd, I have limited to language planning such actions which require governmental authorization;12/ others he refers to as instances of language treatment. examples are Australian Broadcasting Corporation pronunciation guidance, newspaper columnist advice, etc.13/ These I would consider as part of the eventual input on the determination and development stages. However, more often proof-readers and columnists turn to the dictionaries and wordlists developed by language specialists, so that the printed consequences of the columnist's advice actually reflects the implementation of previous determination and development. Thus columnist advice which reflects standard and dictionary usage is implementation; columnist advice which goes counter to standard and dictionary usage (e.g. it is all right to split infinitives in English) becomes input for future determinations.

There are in many countries official governmental academies, like the French Academy, the Swedish Royal Academy, whose members are not primarily language specialists and who make decisions about language. According to this criterion, these decisions would seem to be policy decisions. I clearly consider them under the cultivation approach for these reasons. The primary criterion for membership in this type of academy is the demonstration of the highest order of Kultur appropriate within that particular culture, and it is as educated and cultured men they are asked to form their decisions, not as government officials. Criteria 2 and 3 clearify this fuzzy area.

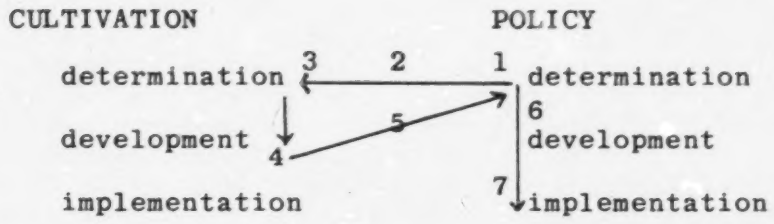
There is another occurrence when the category looks muddled. It does happen that linguists and language experts go into politics and/or become government officials.14/ Ivar Aasen in Norway15/ and Luis Cabrera in Mexico16/ are examples of this. Their linguistic expertise should then be regarded as input into what are clearly policy decisions. Again, criteria 2 and 3 will clarify this.

Criterion 2. Is the decision about the native or another language? Cultivation decisions are usually about the official and native language of the policy makers such as in the French example of auto above. Norms for French Canadian are set by speakers of French Canadian, criteria for developing technological word lists in Swedish are made by Swedes, etc. Policy decisions typically concern either second or foreign languages for the policy makers or the choice of an official language. Those responsible for the authorization of the

Plan Nacional de Educacion Bilingue in Peru or for the Bilingual Education Act in the United States do not speak Arabela or Navajo.

Two points need clarification. I would consider the development and maintenance of a standard written form of a language as a matter of cultivation, normally undertaken by speakers of that language. However, cultures that today do not possess a written code of their language do not have the technical skill of developing a writing system, and in such situations criterion 2 will not hold, as decisions about reducing language to writing usually are made by outside linguists, frequently by missionary groups like the Summer Institute of Linguistics. These linguists however do learn the target language, and their development decisions are based upon the language use of native speakers. Note however that the initial decision, namely to develop a writing system for e.g. Arabela, very often needs official approval and that is a policy decision.

The other point concerns the nature of dialect and language. Language standardization, most frequently a matter of selecting one norm from several regional variations, is a matter of language cultivation; language choice, the selection of an official code from two or more codes, is language policy.17/ When the cases are clear as with standardizing Czech or choosing Hindi and English as official languages in India there is no confusion, but consider Norway's nynorsk and riksnorsk. Normally one would consider two codes spoken within the same country, having identical phonemic systems, virtually identical syntax, most of their vocabulary in common and differing primarily only in morphology to be dialects of the same language, and so expect that the language planning which has taken place in Norway during this century be the concerns of language cultivation.18/ But each code has its own written grammars and dictionaries, fiction and nonfiction are written in both codes and recognized and accepted as such by the Norwegian people, and most importantly, political parties have espoused the adaptation in toto of one code or the other for reasons of nationalism, socialism and other ideological values. It is clearly for non-linguistic reasons that Haugen considers the two codes separate languages, and hence it follows that language choice may involve selection of codes which by purely linguistic criteria might be considered dialects. It is also clear that a great deal of language cultivation preceded the adaptation of Aasen's Landsmal (later called Nynorsk) as the official language. There is a constant criss-crossing between policy determinations and cultivation determinations: The Storting (parliament) authorized the Ministry of Church and Education to appoint a permanent Language Board "whose goal should be to promote the rapproachement of the two written languages on the basis of Norwegian folk speech...".19/ The Board eventually presented the Storting with a proposal for a textbook norm which was adopted for use in the schools after two days of full-scale debate. A schematization of the language planning events would look like this:



where 1) represents the decision on the need for a textbook norm; 2) the Ministry charging the Board with preparing a textbook norm; 3) the Board deciding on guidelines and policies for the preparation of the textbook norm; 4) the preparation of the textbook norm proposal; 5) the presentation of the proposal to the Storting; 6) the adoption of the norm; 7) referral to the Ministry for development and implementation.20/

I commented earlier that this model does not account for the factors influencing the decisions made along the various events in the language planning process. There is little reason to believe that the Board was completely objective in discharging its task; its members were carefully selected to equally represent both languages for a variety of interest groups concerned about language. Although their task (the actual work was done by two linguists) lies in the realm of language cultivation, clearly their decisions were influenced by their ideological orientation.

Criterion 3. Whose language behavior does the decision affect? This is a doubtful category, which may not hold, but the issues raised do need to be considered. Part of the difficulty lies in the vagueness of "affecting language behavior." By that I mean "actual, productive change of present language behavior" if the proposed decision were implemented. If Hindi became the only official language in India, Hindi speakers would presumably not have to learn English. This would represent a change in language behavior but not a productive one. Spelling reforms effect social elites, policy makers, and school children equally. All language planning activity which comes under the heading of language cultivation seems to affect both the elites and the policy makers as well as the rest of the population. The elites and the policy makers do not always represent the same groups. This is the case in Norway, and one of the basic difficulties of implementation.

On the other hand, when decisions affect only the language behavior of subordinate groups or classes, these cases seem to be clear examples of language policy determination. The U.S. Congress is not likely to learn Navajo, just because they passed Title VII; literacy campaigns do not effect the language behavior of those who instigate the campaigns, since they already know how to read. This is not to say that the language behaviors of others involved in the programs do not change on the developmental and implementational levels, e.g. the language skills needed for bilingual education drastically changes teacher recruitment and training programs.

There are many policy decisions which also affect the

elites; from foreign language requirements in the school curriculum and medium of instruction in the schools to selection of official languages. Especially in the latter case, it is important to realize that governments and elites may have conflicting interests, and that many nations have groups of elites with conflicting interests. Many language policy decisions which result in open strife are due just to the opposition of competing interest groups within the higher levels of social stratification. Many of the African nations prefer a neutral world language as the official language rather than favoring one of the many native languages, isomorphic with tribal boundaries.

As a final comment on the criteria for analysing determination decisions as belonging to the cultivation or policy approach, I believe they are listed in order of importance. Criterion 1 overrides the others, and 2 and 3 are useful primarily if 1 does not clearly discriminate between cultivation or policy. If critera 2 and 3 conflict, I believe 2 to be more significant.

Criterion 4. Factors in evaluating the results on the development level, i.e. the produced materials such as dictionaries, word lists, readers, textbooks and programs, such as curriculum and teacher training.

This criterion is basically a corollary of criterion 1; work produced by language specialists is judged by linguistic or paedo-linguistic criteria, and work prepared by government representatives is evaluated by non-linguistic criteria, such as by economic, political, ideological, etc. factors.

Two points need consideration. From an examination of case studies, it seems evident that in every decision about language, if it is to stand any chance of implementation and achieving planned goals, such determination must at one stage be developed by language specialists. Political ideology is not sufficient for standardizing languages or eliminating distasteful loan words. An exception are policies which prohibit or stigmatize the use of specified languages, such as the earlier prohibition of Quechua in the Peruvian army and of Spanish in American schools. Such policies are often tacitly understood rather than officially ratified, a problematic concern in historical research.21/ But any determination decision about official languages, language development, bilingual education and the like, which is firmly intended to become implemented necessitates a cultivation-development stage. Indeed, it seems probable that one can judge the seriousness of intent of the determination by whether a schematization of the language planning process includes a cultivation-development stage.

In many nations, language specialists needed for cultivation-development are incorporated into official or government agencies, such as in the Bureau of Indian Affairs in the U.S. in the 1930's, The Ministry of Education in Peru, and the Academy of the Hebrew Language in Israel. But they work there by virtue of and in the capacity of being language specialists, and the nature of their work is that of language cultivation.

Often they work under the supervision and jurisdiction of government officials who do not possess their specifically needed skills, a potential conflict situation.22/

And this is the second point. Work produced by language specialists should be evaluated by linguistic and paedolinguistic criteria, but often this is not the case, and I find it imperative in analysing language planning processes that one be very clear about which set of criteria is being applied in discussing developmental products.

To discuss in Kenya in linguistic terms whether English or Swahili better expresses scientific concepts obscures the issue and confuses the argument because the matter is one of emerging nationalism. Such arguments should be considered as input on future policy decisions, not as evaluation of developed products.

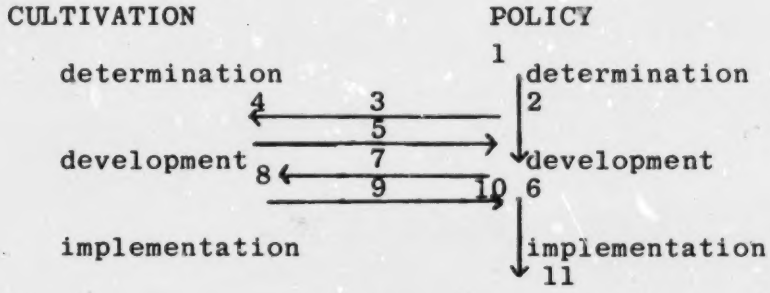
Cultivational developments are often judged by both linguistic and non-linguistic criteria. Textbooks are an excellent example as they serve to socialize children in the cultural and ideological values of the dominant group. A textbook may be excellent by linguistic criteria but in content go counter to the political or religious ideology of the government.23/ This is exactly what happened in Peru last year, where a new set had to be commissioned to meet the Ministry of Education's non-linguistic criteria. Obviously it is useless and at times confusing to argue such decisions by linguistic criteria.

Economic concerns are also often voiced in the development of textbooks in multilingual situations. Such non-linguistic criteria should be seen as contextual constraints on cultivation-development and of crucial importance in the planning process. Unless constraints are properly understood and accounted for, there is very little likelihood of successful implementation. Fishman discusses contextual constraints (in the terminology of planning) as unexpected system linkages: "...the unexpected system linkages may be indeed of greater moment than the ones of direct interest to the language planner."24/ This point cannot be stressed sufficiently, especially as the concept of unexpected system linkages is meant to account for planning failures (by professional planners referred to as unexpected outcomes) and by taking contextual constraints into consideration, one would assure successful implementation. Besides the difficulty of foreseeing the unexpected, I suspect that language planners, i.e. language policy makers, may be very aware of these system linkages but for idological reasons consider their policy worth the battle. To illustrate, Heath accounts for the failure of bilingual education in Mexico in the 50's as not the fault of the method but rather "of the teachers who had ambivalent attitudes about the method or were not adequately trained in the linguistic skills and anthropological assumptions necessary to support the method."25/ I find these inadequate reasons which do not account for the real problem which is linkage of race, internal colonization,26/ cholofication27/

arribismo.28/ Societies will typically blame the schools, the teacher, the method for matters which are symptomatic of social ills and beyond the control of any individuals.

Now, I have myself discussed these concepts, these system linkages, with high officials in the Ministry of Education in Peru (June, 1972) and there is no question they know and understand the contextual constraints on their bilingual education policy, which are similar to those of Mexico's. They prefer to fail than not to try -- and who isto say that they won't succeed. I for one would not want the responsibility of predicting failure on the basis of theoretical notions in the social sciences for a program of which I approve morally.

But to return to the evaluation of cultivation-development. A schematization of the events related to the textbook development within the language planning process in Peru would look like this:



where 1) represents decisions by the Ministry of Education of sweeping reforms in education,29/ 2) subsequently the Ministry decides on new textbooks, 3) textbooks are commissioned, 4) developed, 5) and returned to those in the Ministry in charge of developing new textbooks, where 6) they are rejected, 7) a new set is commissioned, 8) developed, 9) submitted to the Ministry, 10) accepted, and 11) implemented.

The point I want to make from this schematization is 1) that language specialists can work effectively and forcefully (no doubt influenced by their ideological values) only when the events in the language planning process fall under the category of cultivation, 2) that linguistic criteria can be validly and effectively applied only to events in the cultivation category, and 3) when linguistic arguments are applied to advocate or criticize events under policy, they are likely to be colored by the ideological orientation of the language specialist and ineffective unless they are adopted by those involved in determining or implementing policy.30/

However, giving advice is very different from advocating a specific policy. When the linguist is asked as consultant to advise (i.e. input to policy decisions) he is very likely to see and suggest alternatives and possible future consequences

for each alternative. A recent anecdote will illustrate this. A Canadian language specialist 31/ was asked to evaluate the foreign language teaching system in an Arab nation in the Middle East. As the medium of instruction at the university level is in English and the students have difficulties with it, he suggested that they consider English instead of Classical Arabic as the medium of instruction during the last two years in high school. The suggestion was promptly rejected for reasons of nationalism and religion, symbolized by Classical Arabic. The government official understood very well the merit of the suggestion for increased efficiency of English teaching, but for him efficiency of English teaching was not the primary function of high school education. It is crucial in evaluating educational language planning that one consider the function of education in that society. The linguist readily accepted the decision; it was not within his domain to question the function of education of that nation. Some time thereafter, however, another government official became minister of education, and he saw the practical merit of the language specialist's recommendations. Consequently, a program, carefully evaluated, is now being carried out, which uses English as the medium of instruction, and which promises to become a model program for similar situations.

Criterion 5. Factors in evaluating results of implementation. The overriding factor in deciding whether an implementation stems from an initial cultivation or policy determination seems to lie in the manner it is received by the target population. The implementation of cultivation determinations are normally accepted passively; no one except cantankerous individuals reacted violently to the Swedish spelling reform in 1905. Policy implementations on the other hand are typically received with strong attitudes, either negative or positive. The target population may be unanimous or split in its attitudes. The acceptance of Hebrew as a national language was received with strong positive attitudes which enabled its subsequent development and represents a typical language policy. Necessary to this development was later cultivation exemplified in the work of the Hebrew Language Academy whose word lists to my knowledge were never received with public elation.32/

The very recent interest in language attitude studies is illustrative of the increasing understanding in the field of language planning of the importance attitudes play in the successful implementation of language policies. The prediction of attitudes toward alternative language policies is considered an important aspect in theoretical speculations about language planning as a discipline.

To sum up my discussion of language planning, I hope to have demonstrated by the schematizations of case studies of language planning processes that there is a constant interrelationship between language cultivation and language policy, a relationship usually ignored in the literature on language planning. I hold it important to distinguish between the two approaches as the work of the language specialist belongs in the cultivation category, and much confusion results when linguistic and paedolinguistic criteria are used to assess language policies. Certainly the language specialist as citizen has both a right and responsibility to voice his concerns about policies but when he does so, it should be recognized that his interpretation of phenomena may, like any social scientist, be influenced by his personal ideology. The proceedings from the Seminar on Bilingual Education in Lima in January 1972 are more than illustrative of this point.33/

I also hope to have indicated that another area where the language specialist can contribute is as consultant providing input to policy decisions on all levels. Unfortunately, government officials do not often base language decisions on language data, either out of ignorance or because political considerations are given precedence. Only by taking the initiative in sensitizing decision-makers to the importance of linguistic input in language planning can linguists have the kind of impact that is needed.

For the rest of this paper, I will limit my discussion to implications of language learning theory as input to educational language policies and as foundation for cultivation-development and implementation. The topic of language learning necessarily limits the topic to educational language planning.

LANGUAGE LEARNING THEORY

What are the implications we could draw on from language learning theory? First-language learning theory and second-language learning theory are different although at times they overlap. They are concerned with different phenomena and hence have different theories to account for them. No normal human being ever failed to learn a language, but the problem we are concerned with here is that many fail to learn a second language and so cannot participate fully in the life of their nation.

Second language learning and foreign language learning is often used synonomously, but one does well to distinguish between the two. A second language is the official, non-home language of a citizen in a country where he needs the official language for full participation in the social,

political and economic life of that nation, as French in Morocco or Spanish in Mexico. Spanish is a foreign language for me but to a Zapotec Mexican it is a second language. There is beginning to be a wide recognition of the fact that the psychological, social, economic, and political variables in second and foreign language learning are quite different.34/ However, the theories concerned with the linguistic variables in language learning do not distinguish between the two and is usually concerned with foreign language learning.

In discussing foreign language learning theories, it is wise to distinguish between approach, method, and technique. Approach is the "set of correlative assumptions dealing with the nature of language and the nature of language and learning,"35/ i.e. the theoretical foundation of a systematic method. Many of the assumptions are axiomatic and so the merit of any approach is unarguable in terms of theory, and one must look at the effectiveness of the method it has generated. Method refers to the procedures of language teaching, to an "overall plan for the orderly presentation of language material, no part of which contradicts, and all of which is based upon, the selected approach."36/ The method is implemented by techniques, by actual classroom behavior. In discussing implications of language learning theory, I intend to include method and technique as well as approach, as all three form an integral part.

There are two basic, often held to be conflicting, theories of language learning. One holds with Skinner that language learning is habit formation,37/ the other with Lenneberg and Chomsky that language is innate species-specific biologically determined behavior.38/ Both of these theories are concerned with first language acquisition, but they are also intimately connected with two of the most prominent language teaching approaches, the audio-lingual and the cognitive code. The audio-lingual method was developed by structural linguists, influenced by Watson and Skinner. It holds that language learning is mechanical habit formation, best developed by drilling, the techniques of which are reminiscent of the linguist's field methods. Fluency of utterance should proceed any visual exposure, and grammar rules are considered unnecessary, i.e. analogy is more efficient in language learning than analysis. The audio-lingual approach has held sway in the United States since the forties, and it is only within the last five years that there has been wide-spread questioning and criticism ofthis approach.

The cognitive code approach can certainly be considered a reaction against the audio-lingual, both from theoretical and practical viewpoints. The approach closely reflects the transformational-generative linguistic school of thought about the nature of language, and it is influenced by cognitive psychologists, critical of stimulus-reinforcement theory, such as Ausubel.39/ It holds that language is a rule-governed creative system of a universal nature. Language learning must be meaningful, rote-learning should be avoided, and the primary

emphasis is on analysis and developing competence in Chomsky's sense of the word.40/

John Carroll, the psychologist, holds that there is nothing mutually exclusive in the theories of Skinner and of Lenneberg-Chomsky about language learning, but rather that these theories are complementary.41/ This opinion is reflected in the eclectic approach to methodology in language teaching, representative of the best work being done today in this field in the United States, by people like Douglas Brown, Frank Johnson, John Oller, Wilga Rivers, Ronald Wardhaugh, to mention just a few. But then this is a biased statement as it is my own position.

There is a fourth approach to language teaching that merits mention, the direct method. It is difficult to summarize characteristics of the direct method accurately as advocates of the direct method conflict in their statements, and there is nowhere near the unity we find in the audio-lingual or cognitive code approaches which were developed simultaneously with or closely following the development of psychological learning theories with which they were consistent. The direct method seems to have looked for "a scientific rationale for its procedures" 42/ to justify existing techniques, which, again, were disparate in nature and in combination. Also it was developed in several countries simultaneously with their different intellectual tradictions; see Kelly's discussion on the contributions of Locke, Humboldt, Schlegel, Descartes and St. Augustine. The direct method was developed as a protest against the grammar-translation method and has been highly influential on the subsequent development of the audio-lingual method and even, which is rarely recognized, on the cognitive code method which is usually associated with the grammar-translation approach. Primarily what the direct method did was to change the objectives of language learning away from grammar rules recitation and reading-translation to the acquisition of language skills for active communication. Basic tenets held were that only the target language was to be used (a moot point actually), grammar should be learned inductively, and that listening and speaking preceded reading and writing (another mooted point.) What one needs to keep in mind, and I at least have never seen this mentioned in recent discussions on language teaching, is that the method was originally developed for foreign language teaching and for students who were already literate. Indeed, Michael West accounts for the failure of the students to read in English in a program in Bengal by the fact that the students did not know how to read in Bengali, a matter those involved in the program had taken for granted.43/ One should therefore carefully keep in mind that generalizations from the theoretical concerns and empirical findings of the direct method cannot be freely applied to the metodo directo, by some advocated to teach Spanish to illiterate Indians in Mexico although Moises Saenz and Rafael Ramirez certainly made no

such distinctions.44/ As I have indicated earlier, language policy determinations tend to be made for ideological reasons and then justified in terms of available theory.

At this point I imagine you are murmuring to yourself, basta, enough of theories and methodologies and give us some empirical evidence of which one is best. Theories, as I have said, have to be evaluated by their implemented results, and there have been several such studies. One of the latest and most reliable is that of Lennart Levin and his colleagues in Sweden, comparing techniques associated with the audio-lingual habit theory and the cognitive code learning theory.45/ (They very carefully excluded any eclectic methods.) Their findings, stated cautiously, showed a very suggestive tendency on the comprehensive school level (pupil age 13-15) indicating that explanation in the native tongue was a superior technique to either explanations in the target language or to practice exclusive of explanations. This tendency was clearly apparent forthe adult groups (age 17 and above). These findings certainly contradict the directions given the teachers in the authorized curriculum for Swedish schools (Läroplan för Grundskolan), namely to avoid any use of the native language except in exceptional circumstances. I doubt that anyone questions that there are implications of language learning theory for language teaching,46/ and when foreign language teaching methodology of post-puberty students becomes a matter of national policy as it did in Sweden, then there are implications for language planning as well. Levin's study, an experimental evaluation of a policy implementation, will hopefully serve as input to future policy decisions. There is evidence of both theoretical and empirical nature to suggest that public institutions like the Swedish school system and e.g. the Defense Language Institute of the United States Armed Forces would do well to modify their foreign language teaching methodologies from audio-lingual in the direction of cognitive code theory. What exactly those modifications would involve, I have written of elsewhere, as have many others, and cannot be included in this paper.

However, this positive attitude towards the contribution of language learning theory to language planning is difficult to maintain if one considers that foreign language teaching can hardly be considered a major language problem in the world today. Much more crucial are the needs and concerns of efficient second language teaching. What are then the implications for or against literacy in the mother-tongue and for or against bilingual education47/ from the viewpoint of efficient language learning? All experimental data on language teaching methodology evaluating different theoretical approaches, with which I am familiar, deal with post-puberty students. There is sufficient evidence to question the generalizability of such findings to younger students,48/ and bilingual education programs normally involve younger students.

One might speculate on what a model for an elementary bilingual education program in Mexico would look like, based

on the three approaches. The audio-lingual method would advocate reading in the mother-tongue and the development of oral Spanish skills before reading in Spanish with only Spanish used in Spanish class, similar to the Summer Institute of Linguistics courses. The cognitive code method would see no reason (at least not linguistic) for separating the oral and written skills so the target language of all language arts classes would be Spanish but taught with explanations in the mother-tongue, so that the students always understand. The first year Spanish classes, Rubin reports on from Paraguay, were like this. The direct method finally would give all instruction in Spanish; the St. Lambert program would exemplify this approach.

CASE STUDIES ON BILINGUAL EDUCATION

There are a number of case studies in the literature one can investigate in order to ascertain the relative merits of these three approaches. As Carroll has pointed out, these formal studies fall in two groups: surveys and status-studies on the one hand and controlled experiments on the other.

> Surveys and status studies are designed to assemble observations and other kinds of data concerning on-going programmes of teaching. If these data and observations are collected in a sufficiently large number of situations and on a sufficiently uniform basis, it is thought possible to draw inferences regarding many problems relating to second language teaching through the comparison of results obtained in different situations, for there is no doubt that the result will indeed vary.49/
>
> The essence of a controlled experiment in education is to determine the effect of specified procedures of the training, teaching, or selection upon learning of some other aspect of behavior.
>
> When an experiment is called 'controlled', the implication is that the experiment has been designed in such a way that any result of the experiment (positive or negative) can with high probability be traced back or ascribed to the specific influences of one or more factors (or their interactions) that have been built into the design.50/

These studies of the relative merits on learning in L(1), L(2) or bilingual programs and on initial reading in L(1) or L(2) clearly lack the uniformity of research design which Carroll holds crucial in a valid comparison, but nevertheless they represent the only evidence we have in estimating the various efficiency of language teaching of

the three approaches. Furthermore, an objective evaluation is made difficult as the reader cannot but be struck by the remarkable degree of bias (pro or con), both by investigators and by those who report on the findings, which pervades many of the studies and monographs on primary education in bilingual situations. The experts of the 1951 UNESCO conference, e.g. simply held it axiomatic that primary literacy should be in the mother-tongue51/ just as Monsignor Herrera of the Lima Round Table discussions could see no reasons for it at all: "Directamente debe irse a la ensenaza del castellano" adding that he was only discussing teaching methods.52/ It is doubtful that any of them were primarily concerned about teaching methods, but rather with the social implications of such methods, perceived from the view point ofpersonal ideology.

The review of the literature in doctoral dissertations is virtually the only place where one routinely can find reported the contradictory findings of studies on teaching methods in bilingual situations. Apart from the lack of uniformity of research design and from personal bias, it is the contradictory nature of these findings, which virtually prohibit any objectively definitive evaluation of teaching methods, using linguistic criteria of language learning.

In order to illustrate this problem, I have selected a few significant studies rather than to review the literature exhaustively, which has been done elsewhere.53/ The criteria for selection were: 1) that the study dealt with primary education in bilingual situations in regards to (a) reading and (b) language skills; 2) that the research was of such quality that one might expect the findings to be valid; 3) that the study attempted some normative comparison, although not necessarily in controlled experiments; 4) that the findings of the study would go counter to other reported findings and that the studies illustrated different models of bilingual education; and 5) in a few cases, I have selected studies which reported on situations in which I have been involved as participant-observer.

In examining these studies, one should keep in mind that methods of teaching the second language are intimately connected with the function and objectives of teaching the second language. The main question we want an answer to is simply: In order to teach the national (official, world) language, which medium of instruction is most efficient for scholastic achievement in the national language? Subsets of that question deal with to what degree and at what time the L(2) should be introduced into the curriculum, and especially whether initial reading should be done in L(1) and/or L(2). Kjolseth makes very clear that such innocent sounding questions have grave social implications. Programs "judged likely to produce ethnic language shift can be collected into an ideal-typical and extreme 'assimilation model' and all those options which tend to foster ethnic language maintenance into a polar 'pluralistic model.' These two models therefore represent two extremes on a continuum of possible structures of bilingual

education programs."54/ It is a frequently voiced concern in the United States today by linguists that our bilingual education programs may turn out to be too efficient at teaching English and lead, in the commonly used metaphor, as a one-way bridge into assimilation of Anglo culture. I share that concern as a citizen, but as a language teaching specialist I would like some plain answers about efficient language teaching, and one does well to separate rhetoric from fact.

However, there are no plain answers as we shall soon see when we turn to the evidence for whether initial reading should be done in the L(1) or L(2). The most frequently cited study in support of mother-tongue reading is Modiano's Chiapas, Mexico study, where children in three Indian tribes were divided into two groups, one of which received initial reading in the vernacular and then in Spanish, while the other group traditionally read only in Spanish. After three years, the test results showed the students who had been initially taught in the vernacular to have higher reading comprehension than those taught only in Spanish.55/ These results are supported by other findings such as those of Barrera-Vasquez on Tarascan Indians,56/ Burns on Quechua Indians57/ and Osterberg on dialect-speaking Swedish children,58/ also frequently cited in support of the use of vernaculars in initial reading. I have not seen cited anywhere, except for in a recent dissertation, the studies of Valencia in Pecos and Grants, New Mexico, which found no difference in English language skills between the Mexican-American children instructed in both Spanish and English and those instructed only in English.59/

The St. Lambert experiment in Canada is rapidly becoming a classic in the literature on bilingual education, both because of its findings and because it is the most carefully tested, controlled and evaluated long term study we have.60/ Monolingual English-speaking Canadian children were taught exclusively in French in kindergarten and first grade. In second grade English language skills were introduced for seventy minutes a day while all subject matter courses remained taught in French, a schedule followed also in third and fourth grades. French was never taught as a second language but used as it would be with native speaking children. The test results at the end of each year were compared to two control groups, a monolingual French Control Class and a monolingual English Control Class, taught respectively in French and English and with English and French as a second language taught as a subject matter. "At the end of Grade I, the Experimental class was at the same level in French reading and word discrimination ability as the French Controls,..."61/ In English reading (which they had not been taught) they were poorer than the English Control Classes, although still reading at the 50th percentile in terms of nationwide norms for English-speaking first graders on tests of word knowledge and word discrimination and at the 15th percentile on reading skills. By second grade they were reading on the same level as either the French or English Controls,62/ and they maintained this achievement through the other grades.

In terms of reading achievement in L(2), these findings clearly go counter to those of Modiano's. Furthermore, Lambert and Tucker's findings are supported by the Philippine Rizal Experiment and the Kenya evidence reported by Perren63/ and Prator,64/ as well as by the Culver City, California replication65/ of the St. Lambert experiment. There are some tentative conclusions one can draw from these contradictory results. There are two separate skills involved in learning to read, which are often confused in the literature on reading. Reading involves on the one hand decoding symbols to sound and on the other extracting meaning, lexical, syntactic and cultural, from the reading.66/ Initial reading is typically occupied with the first, and it is possible for children to read aloud sentences they don't understand the meaning of.67/ I have seen Spanish speaking children in second grade read perfectly well the sentence Mi mama me ama but when I asked them what it meant they could not tell me; amar was not in their vocabulary. From the evidence it seems possible that children may learn the symbol to sound decoding process in a language they understand poorly: the St. Lambert children read as well as the French children although their listening comprehension and vocabulary depth was significantly below the French children at the end of first grade. Surely they would not have beenable to extract meaning from a story as well as the French children in that case. Jewish children, preparing for the Bar Mitzvah, learn to read in Hebrew without necessarily understanding what they read, a matter of concern for their elders who are concerned with meaning, i.e. the religious content, rather than with symbol decoding. I learned to read Greek myself perfectly easily without understanding much of what I read, and consequently I cared little for the activity. Unless initial reading decoding skills are accompanied by increased proficiency in the L(2) so that children understand and enjoy what they read, there will obviously be no motivation to continue reading.

It seems quite clear that there is a transfer of symbol-sound decoding reading skills from one language to another, provided they use the same alphabet, i.e. the same symbols. "These findings provide strong evidence for a transfer of skills from French to English, especially since the parents had been urged not to introduce or encourage English reading at home," write Lambert and Tucker about their first grade experimental class.68/ These findings are supported by the findings of Giroux and Ellis69/ and of Inclan70/ as well as Davis' from the Philippines:

> The second of the major conclusions drawn from the data in the Rizal Experiment is: "The average level of literacy in Tagalog is not closely related to the number of years in which it has been used as a medium of classroom instruction." It is probably safe to generalize this finding to any vernacular. For example, at the end of Grade 4 or of Grade 6, the pupils in Groups 1, 2, and 3 of the

> Rizal Experiment were about equally literature in Tagalog even though the pupils in these three groups had used it for 0 years, 2 years, and 4 years, respectively, as the medium of classroom instruction.71/

Finally, one cannot ignore that the quality of the educational program makes a difference, independently of whether L(1) or L(2) is used for reading instruction. Good teachers and good texts do make a difference and children learn to read better in good programs, regardless of whether L(1) or L(2) is used as the medium of instruction. This is Aguilar's interpretation of the Philippine data where Hiligaynon speaking children were taught in experimental classes with Hiligaynon, Tagalog or English as the medium of instruction. The literacy rate of the children taught in the mother-tongue was only 75.99% compared to 86.78% in Tagalog and 84.36% in English, "which modern teaching and well-written materials enabled these experimental classes to score."72/

His judgment is borne out by many others. The success of the New Primary Approach in Kenya, which involved changing from the vernaculars to English as the medium of instruction from first grade, was due primarily to the quality of the program. Prator comments:

> For a variety of reasons, it was an immediate and resounding success: 1) it solved a multiplicity of practical and political problems inherent in the former system of giving instruction in several Indian languages; 2) it brought with it an entirely new child-and-activity centered concept of education; 3) it provided much more adequate texts and teaching materials than had ever before been available; and (4) it was carried out under almost ideal conditions of close supervision and continuous in-service training of teachers.73/

Perren and Chari caution that dangers may lie in the very success of the program.74/ Rapid extensions of such programs without adequate teacher training and texts are bound to fail. But quite clearly, it is not the language chosen as medium of instruction which determines the success of the program.

Several of these studies have been concerned with other skills beyond learning to read and we might now examine the evidence for our major concern: from the viewpoint of optimum language learning and school achievement, what should be the medium of instruction in primary education for monolingual children whose mother-tongue is not the official language or the language of secondary education? There are only three alternatives: medium of instruction in L(1) with L(2) taught as a subject, medium of instruction in L(2) with or without L(1) taught as a subject, or some form of bilingual education where both L(1) and L(2) are used as the medium of instruction. There are of course various combinations of these

alternatives possible, such as introducing L(2) as a medium of instruction gradually, or after 2, 3, 4 etc. years of L(1) instruction. It stands to reason that there are universal principles of language learning and that one ought to be able to identify these. But as you might expect from the previous discussion on reading, the research findings are equally contradictory when it comes to medium of instruction in the schools.

The St. Lambert children were taught the subject matter classes only in the L(2) (French) and:

> After five years, we are satisfied that the Experimental program has resulted in no native language or subject matter (i.e. arithmetic) deficit or retardation of any sort, nor is there any cognitive retardation attributable to participation in the program. In fact, the Experimental pupils appear to be able to read, write, speak, understand, and use English as competently as youngsters instructed in the conventional manner via English. During the same period of time and with no apparent personal or academic costs, the children have developed a competence in reading, writing, speaking, and understanding French that English pupils following a traditional French-as-a-Second-Language program for the same number of years could never match.75/

Malherbe tested 18,773 pupils in South Africa in three types of programs: monolingual Africaans (L1), monolingual English (L1) and bilingual Africaans-English with a mixed population of native speaking Africaans and English students.76/ He found the pupils in the bilingual schools doing significantly better in language attainment (L1 and L2), geography and arithmetic.77/ Malherbe comments that there was a definite handicap in the lower grades when the second language was totally unknown to the child but that this tapered off in later grades as the child became proficient in both languages. By the end of the sixth grade they were in no way behind in their content subjects. Malherbe's study is one of the few which controlled for students' intelligence and there is an interesting finding:

> There is a theory that while the clever child may survive the use of the second language as a medium, the duller child suffers badly. We therefore made the comparison at different intelligence levels and found that not only the bright children but also the children with below normal intelligence do better school work all round in the bilingual school than in the unilingual school. What is most significant is that the greatest gain for the bilingual school was registered in the second language by the lower intelligence groups.78/

Richardson's data on the Coral Way Elementary School79/ support Malherbe's findings on the efficacy of bilingual education. The program was similar to Malherbe's bilingual school in that all subject matter is taught in both languages and the population is mixed. Her findings after a three year study showed:

> ... that while the students, English-speaking and Spanish-speaking, were not yet as proficient in their second language as in their native language, they had made impressive gains in learning their second language. The study also indicated that the bilingual curriculum was as effective as the traditional curriculum in helping the students progress in paragraph meaning, word meaning, spelling, arithmetic reasoning and computation.80/

Tucker's report on the Alternate Day's Approach in the Philippines (patterned after Malherbe's school) partially supports some of these findings.81/ Four classes of Grade 1 students (native Pilipino speakers) participated in the program. One class followed a standard Pilipino curriculum, another a standard English curriculum, while the third class studied one day in Pilipino and the next in English. The children in the fourth class also followed an alternate day bilingual approach, but they had not attended kindergarten as had the other children and consistently lagged behind the other three classes so their results were excluded from the analysis of the data on theother three classes. At the end of the first year, the bilingual class performed equally well as the Pilipino class on tests of Pilipino Reading, Pilipino Science, and Non-verbal Social Studies as did the English class. Peculiarly enough all classes performed equally well on Oral English. Not surprisingly, the English class performed best on English Reading and English Science, but they were unexpectedly also best on Verbal Social Studies and Mathematics.

All of these studies quite clearly indicate that students do not seem to suffer in academic subject achievement even though these subjects are taught in a second language. In addition the students become proficient in the second language without suffering any ill effects on their native language although it should be remembered that all of these students received instruction in the mother-tongue.

These findings quite clearly go counter to the general advocacy for bilingual education in the United States today which emphasizes the linguistic necessity for mother-tongue instruction.82/ Bruce Gaarder of the Office of Education in his statement before the Subcommittee on the Title VII Bilingual Education Act claims that "there is an educational axiom, accepted virtually everywhere else in the world, that 'the best medium for teaching a child is his mother-tongue'."83/ One is reminded of the 1951 UNESCO conference,

which indeed Andersson and Boyer cite in their Bilingual Schooling in the United States, a project commissioned by the Office of Education "to reveal the promise of bilingual education."84/ They go on to cite the findings of Modiano and the Summer Institute of Linguistics and on the basis of these three say:

> From these reports and others that could be cited educators are agreed that a child's mother-tongueis the best normal instrument for learning, especially in the early stages of school, and that reading and writing in the first language should precede literacy in a second.85/

I question that educators agree, but certainly the research findings do not. The Chiapas and the St. Lambert data are contradictory as to the merits of mother-tongue instruction, and in addition there are several studies which support the findings of both. The only conclusion must be that we ask the wrong questions and that language is not the causal variable in successful school achievement. "Since the overt linguistic circumstances seem entirely parallel, it seems to me the differences are social," says Ervin-Tripp, one of our foremost psychologist experts on language acquisition.86/ She goes on to say:

> I think two major changes have taken place in our views of language acquisition in recent years. One is that we now are beginning to see the functions of language in the life of the speaker as of far more importance in its acquisition than we had realized, and the other is that the mechanical view that practice makes perfect has given way...87/

Hymes has long argued for the necessity to study not only linguistic competence but also communicative competence. In Cartesian linguistics, "the constitutive role of social factors is ignored, as is knowledge of them, yet identification and motivation are found to be key factors in sociolinguistic change." He concludes that an understanding of the social role and function of language in a society, what he calls rules of speaking, "is indispensable to understanding failures and to increasing success in bicultural education."88/

If we look at the case studies discussed above for some social factors which might explain the contradictory linguistic findings, we find that social class of the students is the one overruling factor. In every single study where monolingual children did as well or better in L(2) instruction than did native speakers, those children came from upper or middle class homes. I suspect that one should add groups which are not stigmatized by race or language use, as it is the attitudes associated with social classes which seem to be the determining influences on learning.89/ Modiano's study

and those which support her findings all deal with children from subordinate groups.

Teachers expect upper and middle class children to do well in school, their parents have power in the community as a social group and their children would not study in the L(2) without their permission, and finally the children themselves have no sense of inferiority. Spolsky discusses how important -- and well documented -- the influence of attitudes (of parents, teachers, peergroup and learner), is on learning.90/

In bilingual programs where mother-tongue instruction seems to be the causal factor in school achievement, it is presumably not for linguistic reasons but for the changed attitudes on the part of students and teachers which go with recognizing the status of the home language, normally stigmatized, as worthy of school use. Mother-tongue instruction of minority languages usually implies that the teacher comes from the same reference group, from the same minority culture, and that by willingly speaking the native tongue, he demonstrates an acceptance of that culture. Educators are just recently coming to understand the importance of teachers as role models in students' expectations for the future.91/ Valencia's findings I think can be taken to support this notion. Only subject matter instruction in the native tongue is not sufficient to bring about significant results.

The other factors in language learning Spolsky discusses are method, age, and aptitude. Age is not a factor as we are discussing primary education. There is very little evidence in the literature on the importance of language aptitude in primary school children. Language aptitude is not the same as intelligence although they are highly correlated,92 and Malherbe had in no way found the "duller" children handicapped in learning the L(2). On the other hand, in the Iloilo II language experiment, they found "the two variables contributing most heavily to the prediction of performance in English were days of school attendance (a function of social class: "the higher the socio-economic level of the pupil's home,...the fewer days he is likely to be absent") and scores of the Language Aptitude Test."93/ It is an interesting contrast as the difference between the two programs lies in the use of English. In Malherbe's program it was used as the medium of instruction while in the Philippines it was taught as a subject. In other words, ESL programs discriminate against those of lower social class and lower intelligence while English as medium of instruction i.e. a bilingual program does not discriminate against lower intelligence. Bilingual education programs, however, are not immune to the influence of social class. The Coral Way and Redwood City programs94/ were similar in that they both were true bilingual programs with Spanish and English both used as media of instruction, and both schools had mixed populations. The Coral Way Spanish students were children of Cuban middle class refugees; the Redwood City children were Chicano, a group discriminated against in California. I have already cited the success of the Coral Way program but Cohen's report on

the Redwood City program indicates less than success. The Anglos did not become fluent speakers of Spanish, which they avoided in order "to lord it over the Spanish speakers because of their greater command of English, and in many cases, their superior reading ability in English."95/ It is obvious that English is the prestige language and equally obvious that the prestige is concordant with social class.

Ramirez makes an interesting comparison,96/ the only one I know of, between the rate of achievement in mother-tongue literacy of the children of migrant Chicano farm workers in Texas and upper middle class children in Mexico City. The children in the remarkable LaMar Center bilingual program learn to read in Spanish in kindergarten with materials developed for a private kindergarten in Mexico City. The children do learn to read although the staff estimate that the LaMar Center children progress at a rate 75% slower than the Mexico City children. It is easy to speculate on the results when such children are taught to read in English with middle-class Anglos. And lest anyone wonder, this difference in progress rate is assuredly not because of lower intelligence but rather the result of social and economic deprivation.97/ I observed these children in second grade and they would be the delight of any teacher, as valid an observation one can make as any psychometric testing in English would be useless in its invalidity.

Following social class, the most important factor in school achievement seems to be the quality of the instructional program. Factors such as prestige of home language vs. the target language, instrumental vs. integrative rewards are subsumed under parents' attitudes, in turn conditioned by membership in social groups. I have cited above Prator's conclusions for the success of the NPA in Kenya as primarily a result of the excellence of the program. Likewise, Aguilar accounts for the contradictory findings of the three Philippine experiments as due to difference in program quality. Another fascinating account is Erickson's evaluation of the Rough Rock Demonstration School and the Rock Point Boarding School in Chinle, Arizona on the Navajo reservation.98/ Rough Rock on paper looks like the ideal school; intensive community involvement, a local and Navajo school board, bilingual education with Navajo and English as a media of instruction, and a 40% Navajo faculty. As Erickson points out Rough Rock has become widely recognized as the symbol of the Avant-garde in American-Indian education. Rock Point was a Bureau of Indian Education school of recognized excellence but without the local involvement, bilingual education and liberal funding of the Rough Rock school. Rough Rock would rate very high on Kjolseth's "pluralistic model," one of the very few we have, in fact. Rock Point concentrated on English and would come closer to the "assimilation model." One can imagine the general dismay when the achievement test data, administered to both schools, "suggest that Rough Rock is inferior to Rock Point academically, and somewhat more markedly so, when all important variables are controlled."99/

Reading the report, it becomes clear that rhetoric about cultural pluralism accounts for little if the objectives are not implemented; attitudes by themselves are not sufficient. At Rock Point the teachers were hand-picked for demonstrated ability, they were consistently trained and supervised, sufficient teaching materials were available, and the students were on principle pushed to perform academically at their utmost. The exact opposite was true of Rough Rock. It is difficult not to draw the conclusion from the report that the difference in program quality was directly due to the quality of administration, to the chief administrators.100/

Good programs are usually equated with well trained teachers and good teaching materials in a structured and supervised curriculum (as in Kenya and the Philippines) but little mention is ever made of methods of teaching English.101/ One would very much want to know whether the relative success of Rough Rock and Rock Point were related to the merits of language teaching. Neither of Erickson's assistants who observed the ESL classes and reported on the language programs knew sufficiently about second language teaching to report informatively about the programs. However, from my knowledge of materials cited and consultants referred to, I think it fair to deduce that Rock Point tended toward the classic audio-lingual approach while Rough Rock was more modified in the direction of cognitive code. In other words, even though Rough Rock endorses a language teaching method in its ESL classes which is more effective than that at Rock Point, this is nowhere noticeable in the academic achievement of the children, as measured by the achievement test batteries from the California Test Bureau. Now, Schwartz reports that Rough Rock had no uniformity or structure of its TESL program, and this was presumably so as a result of its poor administration. Even so I think we must admit that within the entire social situation, different language teaching methods account for very little of achieved language proficiency.

SUMMARY REMARKS

On such a pessimistic note, one might wonder if there are any implications at all of language learning theory for language planning. I think there are. Carroll has pointed out that "one of the best established findings of educational research is that a major source of variation in pupil learning is the teacher's ability to promote learning."102/ If we look at these case studies with the view of finding out what enables teachers to promote students' learning, there are findings on which there is general agreement.

Children in primary schools do not seem to learn a language well if it is taught only as a subject matter with second language techniques, especially if those techniques are classic audio-lingual.103/ Unless a child understands and can use a language to communicate, he will not gain any proficiency in that language. There is general agreement

that children's proficiency in their L(2) is directly related to the years it has been used as a medium of instruction in subject matters other than the language itself. This, however, presupposes fluent, if not native, teachers.

Having considered the various language teaching methods to be of minor importance in teaching students an L(2), one might well wonder about the merit of the Center for Applied Linguistics' recommendation that "all personnel involved in bilingual programs should be required to have training in methods of teaching English as a Second Language."104/ I find it crucial. What the direct method, the audio-lingual method and the cognitive code method all have in common is the recognition that they are in fact teaching a language foreign to the child. They all proceed in an orderly progress where the language content is structured. All staff who have worked with monolingual classes in an L(2) claim that this is necessary. In order to structure initial language use, the teachers need training and decent materials. The methods of structuring seem to play less a role than the structuring itself. Teachers who have had no training in second language teaching may simply fail to understand the difficulties of their students. Rubin reports from Paraguay that the teachers:

> ... felt that any language problem difficulty encountered was a normal part of teaching. In most rural areas, the teachers were under the illusion that although their students could not speak Spanish, almost all of them couldunderstand it. My classroom visits generally indicated this to be untrue.105/

The research data are not contradictory in their findings that teachers of superordinate groups do not promote efficient learning when they impose their values and attitudes on students of minority groups. Language learning theory has typically ignored the sociolinguistic aspect of language learning, and language teaching specialists are not likely to quarrel with John and Horner when they write:

> Another major factor almost totally ignored in decades of psychological research on second-language learning is the socio-economic and cultural background of the non-English speaking child.
>
> If research on bilingualism is to be effective, it must go beyond the narrow confines of purely linguistic and psychological studies.106/

In other words, the most valid implication language planning can draw from language learning theory lies exactly in those factors the theory cannot account for. The limited answers we can draw on from language learning theory indicates the necessity of adopting a sociolinguistic and anthropological framework for examining solutions to sociolinguistic problems.

NOTES

1. Joshua Fishman, "Language Modernization and Planning in Comparison with Other Types of National Modernization and Planning," Language in Society, 2:1, (April, 1973), 23-24.

2. Björn Jernudd, "Language Planning as a Type of Language Treatment," Language Planning: Current Issues and Research, eds. J. Rubin and R. Shuy (Washington, D.C.: Georgetown University Press, 1973), pp. 11-23.

3. Shirley Brice Heath, Telling Tongues: Language Policy in Mexico - Colony to Nation (New York: Teachers College Press, 1972).

4. I owe the terms language cultivation and language policy to Jiri Neustupný as well as the concept of a basic dichotomy, but my classification varies completely with his.

5. Jernudd in Rubin and Shuy, 15.

6. Joan Rubin, "Language Planning: Discussion of Some Current Issues," in Rubin and Shuy, 1-9.

7. T.P. Gorman, "Language Allocation and Language Planning in a Developing Nation," in Rubin and Shuy, 77.

8. Elizabeth Whatley, "A Pilot Study of Dialect Features and Reading Errors," Department of Elementary Education, University of Pittsburgh, 1972. Mimeo.

9. Jernudd in Rubin and Shuy, 16.

10. Einar Haugen, Language Conflict and Language Planning: The Case of Modern Norwegian (Cambridge, Harvard University Press, 1966), and J. Das Gupta, Language Conflict and National Development: Group Politics and National Language Policy in India (Berkeley: University of California Press, 1970).

11. J. Rubin and B. Jernudd, Can Language Be Planned: Sociolinguistic Theory and Practice for Developing Nations. (Hawaii: University of Hawaii Press, 1971), xxii.

12. In nations which have federal as well as state governments, decisions by state officials in regard to language would clearly form part of the language planning process.

13. Jernudd in Rubin and Shuy, 18-19.

14. This has been the case in India, for example. See footnote 22.

15. Einar Haugen, "Language Planning in Modern Norway," The Ecology of Language (Stanford: Stanford University Press, 1972), pp. 133-147.

16. Heath, 93, 121.

17. Paul Garvin, "Some Comments on Language Planning," in Rubin and Shuy, 26, points out that written and standard languages are characterized by linguistic variables and are a matter of degree while national and official languages can only be characterized by non-linguistic variables and are a matter of yes/no decisions.

18. Haugen, 1966.

19. Haugen, 1972: 138.

20. When there are many bodies of government actively involved in language planning (here only the parliament and the ministry) one might want to chart more than one column under policy.

21. Shirley Brice Heath, "Language Status Achievement: Policy-Approaches in the United States. Colonial and Early National Perspectives," Report to the Research Seminar in Bilingual Education, TESOL Convention, San Juan, 1973. Mimeo.

22. J. Das Gupta, "Language Planning and Public Policy. Analytical outline of the policy process related to language planning in India," Socio-linguistics: Current Trends and Prospects, Report on the Twenty-third Annual Round-Table Meeting, ed. R. Shuy (Washington, D.C.: Georgetown University Press, 1972), 157-165.

23. Ana Boggio et al., Cuesta arriba o cuesta abajo?: Un analysis Critico de los Textos de Lecturnade Primaria (Lima: Centro de Estudios y Promocion del Desarrollo, 1973).

24. Fishman, 36.

25. Heath, 1972: 143-144.

26. Julio Cotler, "The Mechanics of Internal Domination and Social Change in Peru," Studies in Comparative Development, III: 12, 1967-1968, and Rolland G. Paulston, "Estratificacion Social, poder y organizacion educacional: el caso peruano," Aportes, no. 16 (April, 1970), 92-111; also in English version, "Socio-Cultural Constraints on Peruvian Educational Development," Journal of Developing Areas, 5:3, 1971, 401-415.

27. Richard W. Patch, "La Parada, Lima's Market. Serrano and Criollo, the Confusion of Race with Class," AVFSR, West Coast South America Series, XIV. 2, February, 1967, and William Stein, "Mestizo Cultural Patterns: Culture and Social Structure in the Peruvian Andes," Buffalo: State

University of New York, 1972. Mimeo.

28. Carlos Delgado, "An analysis of 'arribismo' in Peru" Human Organization 28:2 (Summer, 1969), 133-139.

29. Peru, El Gubierno Revolucionario de la Fuerza Armada, Ley General de Educacion, Decreto 19326. Lima, Marzo de 1972. For background reading on the Peruvian linguistic situation, see Alberto Escobar, Lenguaje y Discriminacion Social en America Latina (Lima: Milla Batres, 1972) and Alberto Escobar, ed. El Reto del Multilinguismo en el Peru Peru-Problema #9 (Lima: Instituto de Estudios Peruanos, 1972).

30. An example of effective implementation on a policy level is Title VII of the U.S. National Defense Education Act of 1958 which provides for instruction and research in certain modern foreign languages not commonly taught in the United States.

31. E. Richard Tucker, the language specialist in question, personally told me this anecdote.

32. For references, see the bibliography of Aaron Bar-Adon, "The Rise and Decline of An Upper-Galilee Dialect," in Rubin and Shuy, pp. 86-101.

33. Peru. Ministerio de Educacion. Primer Seminario Nacional de Educacion Bilingue: Algunos Estudios y Ponencias, Lima, Enero de 1972.

34. See e.g. Betty Wallace Robinett, "The Domains of TESOL," TESOL Quarterly 6:3 (September, 1972), 197-207. See also Albert H. Marckwardt, "English as a Second Language and English as a Foreign Language," PMLA 78:2 (1963), 25-28.

35. Edward M. Anthony, "Approach, Method and Technique," Teaching English as a Second Language, eds. H. Allen and R. Campbell (New York: McGraw-Hill, 1972), p. 5.

36. Anthony in Allen and Campbell, 6.

37. B.F. Skinner, Verbal Behavior (New York: Appleton-Century-Crofts, 1957); K. MacCorquodale, "On Chomsky's Review of Skinner's Verbal Behavior;" Journal of the Experimental Analysis of Behavior, 13 (1970), 83-99.

38. Eric Lenneberg, The Biological Foundations of Language (New York: Wiley, 1967) and New Directions in the Study of Language (Cambridge, Mass.: M.I.T. Press, 1964); Noam Chomsky, Review of Skinner's Verbal Behavior, Language, 35 (1959), 26-58, and "Linguistic Theory," in Language Teaching Broader Contexts, Northeast Conference on the Teaching of Foreign Languages (New York: MLA Materials Center, 1966), pp. 43-49.

39. David Ausubel, Educational Psychology: A Cognitive View (New York: Holt, Rinehart and Winston, 1968).

40. For a theoretical and procedural comparison of the audio-lingual and cognitive code approaches see Kenneth Chastain, The Development of Modern Language Skills: From Theory to Practice (Philadelphia: Center for Curriculum Development, 1971). See also my own review article which discusses texts according to the approach they follow: "A Biased Bibliography: Comments of Selecting Texts for a Methods Course in TESOL," Language Learning June, 1973, pp. 129-143.

41. John B. Carroll, "Current Issues in Psycholinguistics and Second Language Teaching," TESOL Quarterly, 5:2 (June, 1971), pp. 101-114.

42. L.G. Kelly, 25 Centuries of Language Teaching (Rowley, Mass.: Newbury House, 1969).

43. Michael West, Learning to Read A Foreign Language (London: Longman, 1941).

44. Heath, 89-92. Saënz was undersecretary of Education in 1925 and Ramirez was head of the Department of Rural Education. Later Saënz drastically modified his view on language teaching, p. 105.

45. Lennart Levin, Comparative Studies in Foreign Language Teaching (Stockholm: Almquist och Wiksell, 1972). See also Chapter Four of "Earlier Research on the Effectiveness of Foreign-Language Teaching Methods."

46. Although occasionally someone will question the relationship between foreign language teaching and learning, e.g. John Upshur, "Four Experiments on the Relation Between Foreign-Language Teaching and Learning," Language Learning, 18 (1968), pp. 111-124.

47. There is considerable confusion as to what bilingual education signifies. In this paper, I have followed Andersson and Boyer's definition "unless the home language is used as medium for teaching a part or the whole of the curriculum, we believe education cannot properly be called bilingual. To call ESL programs bilingual only causes confusion," in Theodore Andersson and Mildred Boyer, Bilingual Schooling in the United States (Washington, D.C.: U.S. Government Printing Office, 1970), p. 12.

48. Susan Ervin-Tripp in Session One, Commentaries, Description and Measurement of Bilingualism, ed. L.G. Kelly(Toronto: University of Toronto Press, 1969), pp. 26-34. See also John B. Carroll, "Psychological and Educational Research into Second Language Teaching to Young Children,"

Languages and the Young School Child, ed. H.H. Stern (London: Oxford University Press, 1969), pp. 56-68.

49. John B. Carroll, "Research Guide," Part II of Languages and the Young School Child, ed. H.H. Stern (London: Oxford University Press, 1969), p. 205.

50. Carroll in Stern, 23.

51. UNESCO. The Use of Vernacular Languages in Education (Paris: UNESCO, 1953), p. 11. For an introduction to the issues involved, see W.H. Whiteley, ed. Language Use and Social Change (London: Oxford University Press, 1971) which makes clear the actual complexity of the situation.

52. Jose M. Arguedas, ed., Mesa Redonda sobre el Monolinguismo Quechua y Aymara y la Educacion eu el Peru (Lima: Casa de la Cultura del Peru, 1966), p. 48.

53. John McNamara, Bilingualism and Primary Education (Edinburgh: University Press, 1966); John and Horner; and P.A. Zirkel, "An Evaluation of the Effectiveness of Selected Experimental Bilingual Education Programs in Connecticut," Unpublished doctoral dissertation, University of Hartford, 1972. See also the bibliographies in "ACTFL Annual Bibliography of Books and Articles on Pedagogy in Foreign Languages" Foreign Language Annals; Andersson and Boyer; H. Berendzen, "Books on Bilingualism: Abstracts and Select Bibliography," and L. Madison Coombs, "A Summary of Pertinent Research in Bilingual Education," in Bilingual Education for American Indians Curriculum Bulletin No. 3 (Washington, D.C.: United States Bureau of Indian Affairs, 1971); L. Zuck and Y. Goodman, Social Class and Regional Dialects: Their Relationship to Reading: An Annotated Bibliography (Newark, Del.: International Reading Association, 1971). See also Norma C. Hernandez "Variables Affecting Achievement of Middle School Mexican-American Students," Review of Educational Research, 43:1 (Winter, 1973), pp. 1-39; and Bernard Spolsky, "Evaluation of Research on Bilingual Education for American Indians," ERIC Ed. 057 953.

54. Rolf Kjolseth, "Bilingual Education Programs in the United States: For Assimilation or Pluralism?" The Language Education of Minority Children, ed. B. Spolsky (Rowley, Mass.: Newbury House, 1972), pp. 94-121.

55. Nancy Modiano, "Reading Comprehension in the National Language: A Comparative Study of Bilingual and All Spanish Approaches to Reading Instruction in Selected Indian Schools in the Highlands of Chiapas, Mexico." Unpublished doctoral dissertation, New York University, 1966.

56. A. Barrera-Vasquez, "The Tarascan Project in Mexico," in The Use of Vernacular Languages in Education (Paris: UNESCO, 1953), pp. 77-86.

57. Donald Burns, "Bilingual Education in the Andes of Peru," in Language Problems of Developing Nations, eds. J. Fishman et al. (New York: Wiley, 1968), pp. 403-413.

58. Tore Österberg, Bilingualism and the First School Language (Umeå: Västerbottens Tryckeri, 1961).

59. Atilano Valencia, "Bilingual/Bicultural Education: An Effective Learning Scheme for First Grade Spanish Speaking, English Speaking, and American Indian Children in New Mexico: A Report of Statistical Findings and Recommendations for the Grants Bilingual Project" (Albuquerque, N.M.: Southwest Cooperative Educational Laboratory, 1970), and "The Relative Effects of Early Spanish Language Instruction on Spanish and English Linguistic Development: An Evaluation Report of the Pecos Language Arts Program for the Western States Small School Project" (Albuquerque, N.M.: Southwest Cooperative Educational Laboratory, 1970).

60. W.E. Lambert and G.R. Tucker, Bilingual Education of Children (Rowley, Mass.: Newbury House, 1972).

61. W.E. Lambert, "Some Cognitive Consequences of Following the Curricula of the Early School Grades in a Foreign Language," in Bilingualism and Language Contact: Anthropological, Linguistic, Psychological, and Sociological Aspects, Report on the Twenty-first Annual Round-Table Meeting: ed. J. Alatis (Washington, D.C.: Georgetown University, 1970), p. 256.

62. Although note, that Lambert and Tucker report in Bilingual Education of Children (p. 75) that the Pilot Class reading score is equivalent to one Control group, reliably lower than the second English Control group. The Follow Up class is reading on the same level as the Control.

63. M. Ramos, J. Aguilar and B. Sibayan, The Determination and Implementation of Language Policy (Quezon City: Phoenix Press, 1967) and J. Donald Bowen, The UCLA-Philippine Language Program 1957-1966, Department of English, University of California at Los Angeles, 1968. G.E. Perren and A. Chari, "Second Language Teaching to Younger Children in Africa and Asia," in Stern, 1969.

64. Clifford Prator, "Language Policy in the Primary Schools of Kenya," On Teaching English to Speakers of Other Languages, Series III, ed. B.W. Robinett, pp. 27-35.

65. Andrew Cohen, V. Fier, and M. Flores, "The Culver City Spanish Immersion Program - End of Year #1 and Year #2", Department of English, UCLA, 1973. Mimeo. See also Russell Campbell, "English Curricula for Non-English Speakers" in Alatis, 1970, and "Bilingual Education in Culver City," Workpapers: Teaching English as a Second Language, 6: 87-92, University of California at Los Angeles, 1972.

66. Charles Fries, Teaching and Learning English as a Foreign Language (Ann Arbor: University of Michigan Press, 1945).

67. See also Joyce Morris, "Barriers to Successful Reading for Second Language Students at the Secondary Level," in Spolsky, 1972, pp. 156-163.

68. Lambert and Tucker, 36.

69. & 70. M-Y. Giroux and D. Ellis, "Apprenticeship in Bilingualism in Walland's Public Schools," Unpublished paper, and Rosa Inclan, "An Updated Report on Bilingual Schooling in Dade County Including Results of a Recent Evaluation," Unpublished paper. As cited in Zirkel, pp. 49, 52.

71. Jose Aguilar in Ramos, Aguilar and Sibayan, 97.

72. Aguilar, 119.

73. Prator, 27.

74. Perren and Chari, 39-40.

75. Lambert and Tucker, 152.

76. E.G. Malherbe, The Bilingual School. A Study of Bilingualism in South Africa (London: Longmans, Green and Co., 1946).

77. As cited in Zirkel, 49.

78. E.G. Malherbe in Session 1, Commentaries, Description and Measurement of Bilingualism, ed. L.G. Kelly (Toronto: University of Toronto Press, 1969), p. 48.

79. Mabel Richardson, "An Evaluation of Certain Aspects of Academic Achievement of Elementary Pupils in a Bilingual Program," Unpublished doctoral dissertation, University of Miami, 1968.

80. Vera John and Vivian Horner, Early Childhood Bilingual Education (New York: MLA-ACTFL, 1971), p. 176.

81. Richard Tucker, "An Alternate Days Approach to Bilingual Education," in Alatis, pp. 281-299.

82. See e.g. Andersson and Boyer; the Center for Applied Linguistics, Recommendations for Language Policy in Indian Education, Washington, D.C. 1973; John and Horner; and M. Saville and R. Troike, A Handbook of Bilingual Education (Washington, D.C.: TESOL, 1971).

83. Bruce Gaarder in Report of the Special Subcommittee on Bilingual Education of the Committee on Labor and Public Welfare, U.S. Senate, Ninetieth Congress, 1961, in Spolsky, 54 and Andersson and Boyer, 51.

84. E. Hindsman in Andersson and Boyer, iii.

85. Andersson and Boyer, 45.

86. Susan Ervin-Tripp, "Structure and Process in Language Acquisition," in Alatis, pp. 313-314. See also S. Ervin-Tripp, Language Acquisition and Communicative Choice (Stanford: Stanford University Press, 1973).

87. Ervin-Tripp in Alatis, 314.

88. Dell Hymes, "Bilingual Education: Linguistic vs. Sociolinguistic Bases," in Alatis, pp. 72, 75.

89. An interesting study to follow is the St. Lambert Experiment replicated with working class children; the findings to date are too inconclusive to include in this paper, see, G.R. Tucker, W.E. Lambert, and A. d'Anglejan, "French Immersion Programs: A Pilot Investigation," Language Sciences, 25 (April, 1973), pp. 19-26. See also M. Bruck, G.R. Tucker, and J. Jakimik, "Are French Immersion Programs Suitable for Working Class Children? A follow-up investigation." McGill University, unpublished mimeo, 1973, where the authors conclude that the program is as suitable for working class children as for their middle class peers. However, these children come from upper working class and lower middle class, most certainly not from a group discriminated against in their society. See also H.P. Edwards and M.C. Casserly, "Evaluation of Second Language Programs in the English Schools: Annual Report 1972-1973," the Ottawa Roman Catholic Separate School Board, whose children Lambert states to be working class (personal communication) although there is no mention of social class backgrounds in the report. See also the annual reports from 1971 and 1972.

90. Bernard Spolsky, "Attitudinal Aspects of Second Language Learing," Teaching English as a Second Language, eds. H. Allen and R. Campbell (New York: McGraw-Hill, 1972), pp. 403-414. See also Robert F. Preck, "Realism of Self-Appraisal and School Achievement in Eight Countries," Determinants of Behavioral Development. New York: Academic Press, 1973.

91. See e.g. Erickson's findings in chapter 7 of Donald Erickson et al., Community School at Rough Rock - An Evaluation for the Office of Economic Opportunity. U.S. Department of Commerce (Springfield, Va.: Clearinghouse for Federal Scientific and Technical Information, 1969).

92. Paul Pimsleur, "Testing Foreign Language," Trends in Language Teaching, ed. A. Valdman (New York: McGraw-Hill, 1966).

93. Aguilar in Ramos, Aguilar and Sibayan, 94.

94. Andrew Cohen, A Sociolinguistic Approach to Bilingual Education (Rowley, Mass.: Newbury Press, forthcoming).

95. Cohen, Fier and Flores, 2.

96. Alfonso Ramirez, "Bilingual Reading for Speakers of Spanish: Action Research and Experimentation," p. 4. Mimeo, no date.

97. I am not discussing styles of learning as they differ in various cultures, but obviously this is also of great importance. See e.g. Erickson, 5.41 or Vera John, "Styles of Learning - Styles of Teaching: Reflections on the Education of Navajo Children," Functions of Language in the Classroom (New York: Teachers College Press, 1972), pp. 331-343; Rosalie A. Cohen, "Conceptual Styles, Culture Conflict, and Non-Verbal Tests of Intelligence," American Anthropologist 71:5 (October, 1969), 828-856. See also Frederick Williams, ed. Language and Poverty (Chicago: Markham Publishing Co., 1970) and Hernandez, 5, on Physical Aspects. "It is a matter of record that Mexican-American children suffer from poor health care. ...Infant and maternal mortality of migrant workers are each 12% higher than the national rate and influenza and pneumonia death rates are 200% higher. Death rates from tuberculosis and infectious diseases are 260% higher." The La Mar Center students were the children of migrant workers.

98. See footnote 91.

99. Erickson, 7. 38. In reply to a question about the testing, Professor Erickson writes, "In observing the students while they responded to the achievement tests, I was convinced that in many cases we were getting measurements of attitudes regarding time, competition, the importance of tests, etc., much more than we were getting data on what the tests purported to tap. The typical achievement test, I fear, is a rather stupid way of testing many American Indian students." (Private correspondence, June 26, 1973). See also Erickson and Schwartz, "What Rough Rock Demonstrates," Integrated Education, 8 (March-April, 1970), 21-34.

100. The Rough Rock Demonstration School had just changed its director at the time of the evaluation, and in no way should Erickson's findings be taken to reflect on the present administration.

101. Kenya was modified direct method; the Philippines classic audio-lingual. For an idea of what the methods and techniques of these approaches are like, see J.A. Bright and G.P. McGregor, Teaching English as a Second Language (London: Longman, 1970) and G.E. Perren, ed., Teachers of English as a Second Language: Their Training and Preparation (Cambridge: Cambridge University Press, 1968), for the African experience and Fe Dacanay, Techniques and Procedures in

Second Language Teaching (Quezon City: Phoenix Press, 1963) for the Philippine background.

102. J.B. Carroll, "Wanted: A Research Basis for Educational Policy on Foreign Language Teaching," Harvard Educational Review, 30 (1960), 128-140.

103. The findings of McKinnon support this notion: Kenneth McKinnon, "An Experimental Study of the Learning of Syntax in Second Language Learning." Unpublished doctoral dissertation, Harvard University, 1965.

104. N. Modiano, W. Leap and R. Troike, Recommendations for Language Policy in Indian Education (Washington, D.C.: Center for Applied Linguistics, 1973), p. 15. See also the recommendations in Byron Bender, Linguistic Factors in Maori Education (Wellington: New Zealand: Council for Educational Research, 1971), pp. 47-68.

105. Joan Rubin, National Bilingualism in Paraguay (The Hague: Mouton, 1968), p. 79.

106. John and Horner, 173.

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